

## C. Project Types

There are four project types available across the Agriculture and Food Research Initiative (AFRI). These are 1) Research, 2) Education, 3) Extension and 4) Integrated Research, Education, and/or Extension Projects. Each of these project types is described below:

### 1. Research Projects

Single-function Research Projects support fundamental or applied research conducted by individual investigators, co-investigators within the same discipline, or multidisciplinary teams.

***Fundamental research*** means research that (i) increases knowledge or understanding of the fundamental aspects of phenomena and has the potential for broad application and (ii) has an effect on agriculture, food, nutrition or the environment.

***Applied research*** means research that includes expansion of the findings of fundamental research to uncover practical ways in which new knowledge can be advanced to benefit individuals and society.

Multi-disciplinary projects are those in which investigators from two or more disciplines collaborate closely to address a common problem. These collaborations, where appropriate, may integrate the biological, physical, chemical, or social sciences.

### 2. Education Projects

Single-function Education Projects develop human capital relevant to overall program goals for U.S. agriculture. An education activity or teaching activity is formal classroom instruction, laboratory instruction, and practicum experience in the food and agricultural sciences and other related matters such as faculty development, student recruitment and services, curriculum development, instructional materials and equipment, and innovative teaching methodologies.

The applications for Education Projects may include any of the following activities: conducting classroom and laboratory instruction and practicum experience; faculty research internships for curricula development; cutting-edge agricultural science and technology curriculum development; innovative teaching methodologies; instructional materials development; education delivery systems; student experiential learning (student led-research; internships; externships; clinics); student learning styles and student-centered instruction; student recruitment and retention efforts; career planning materials and counseling; pedagogy; faculty development programs; development of modules for on-the-job training; providing knowledge and skills for

professionals creating policy or transferring to the agriculture workforce; faculty and student exchanges; and student study abroad and international research opportunities relevant to overall program goals for U.S. agriculture. The activities for Education Projects must show direct alignment with increasing technical competency in AFRI priority area(s) to ensure that the U.S. remains globally competitive in the knowledge age.

Education Projects address one or two of the following key strategic actions:

- 1) Train students for Associate, Baccalaureate, Master's or Doctoral degrees; and/or
- 2) Prepare K-12 teachers and higher education faculty to understand and present food and agricultural sciences.

These projects should lead to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group. These projects should synthesize and incorporate a wide range of the latest relevant research results.

### **3. Extension Projects**

Single-function Extension Projects conduct programs and activities that deliver science-based knowledge and informal educational programs to people, enabling them to make practical decisions. Program delivery may range from community-based to national audiences and use communication methods from face-to-face to electronic or combinations thereof. Extension Projects may also include related matters such as certification programs, in-service training, client recruitment and services, curriculum development, instructional materials and equipment, and innovative instructional methodologies appropriate to informal educational programs.

Extension Projects address one or more of the following key strategic actions:

- 1) Support informal education to increase food and agricultural literacy of youth and adults;
- 2) Promote science-based agricultural literacy by increasing understanding and use of food and agricultural science data, information, and programs;
- 3) Build science-based capability in people to engage audiences and enable informed decision making;
- 4) Develop new applications of instructional tools and curriculum structures that increase technical competency and ensure global competitiveness;
- 5) Offer non-formal learning programs that increase accessibility to new audiences at the rate at which new ideas and technologies are tested and/or developed at the community-scale; and
- 6) Develop programs that increase public knowledge and citizen engagement leading to actions that protect or enhance the nations' food supply, agricultural productivity, environmental quality, community vitality, and/or public health and well-being.

These projects should lead to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group. These

projects should synthesize and incorporate a wide range of the latest relevant research results.

#### **4. Integrated Research, Education, and/or Extension Projects**

An Integrated Project includes at least **two** of the three functions of the agricultural knowledge system (*i.e.*, research, education, and extension) within a project, although some program areas may require that Integrated Project applications include all three components of the agricultural knowledge system. Applicants should consult the program area description beginning in Part I. C of the RFA for the specific requirements of the program area to which they are applying.

The functions addressed in the project should be focused around a problem or issue and should be interwoven throughout the life of the project to complement and reinforce one another. The functions should be interdependent and necessary for the success of the project and no more than two-thirds of the project's budget may be focused on a single component.

- a) The proposed **Research** component of an integrated project should address knowledge gaps that are critical to the development of practices and programs to address the stated problem.
- b) The proposed **Education** (teaching and teaching-related) component of an Integrated Project should develop human capital relevant to overall program goals for U.S. agriculture. An education or teaching activity is formal classroom instruction, laboratory instruction, and practicum experience in the food and agricultural sciences and other related matters such as faculty development, student recruitment and services, curriculum development, instructional materials and equipment, and innovative teaching methodologies.

Educational activities may include any of the following: conducting classroom and laboratory instruction and practicum experience; faculty research internships for curricula development; cutting-edge agricultural science and technology curriculum development; innovative teaching methodologies; instructional materials development; education delivery systems; student experiential learning (student led-research; internships; externships; clinics); student learning styles and student-centered instruction; student recruitment and retention efforts; career planning materials and counseling; pedagogy; faculty development programs; development of modules for on-the-job training; providing knowledge and skills for professionals creating policy or transferring to the agriculture workforce; faculty and student exchanges; and student study abroad and international research opportunities relevant to overall program goals for

U.S. agriculture. Educational activities must show direct alignment with increasing technical competency in AFRI priority area(s) to ensure that U.S. agriculture remains globally competitive in the knowledge age.

Educational components must address one or two of the following key strategic actions:

- Train students for Associate, Baccalaureate, Master's or Doctoral degrees; and/or
- Prepare K-12 teachers and higher education faculty to understand and present food and agricultural sciences.

These projects should synthesize and incorporate a wide range of the latest relevant research results. **Note that routine use of graduate students and postdoctoral personnel to conduct research is not considered education for the purposes of the AFRI program.**

- c) The proposed **Extension** component of an Integrated Project should conduct programs and activities that deliver science-based knowledge and informal educational programs to people, enabling them to make practical decisions. Program delivery may range from community-based to national audiences and use communication methods from face-to-face to electronic or combinations thereof. Extension Projects may also include related matters such as certification programs, in-service training, client recruitment and services, curriculum development, instructional materials and equipment, and innovative instructional methodologies appropriate to informal educational programs.

Extension activities may address, but are not limited to, the following key strategic actions:

- Support informal education to increase food, agricultural, and health literacy of youth and adults;
- Promote science-based agricultural literacy by increasing understanding and use of food and agricultural science data, information, and programs;
- Build science-based capability in people to engage audiences and enable informed decision making;
- Develop new applications of instructional tools and curriculum structures that increase technical competency and ensure global competitiveness;
- Offer non-formal learning programs that increase accessibility to new audiences at the rate at which new ideas and technologies are tested and/or developed at the community-scale; and
- Develop programs that increase public knowledge and citizen engagement leading to actions that protect or enhance the nation's

food supply, agricultural productivity, environmental quality, community vitality, food security and/or public health and well-being.

These projects should synthesize and incorporate a wide range of the latest relevant research results. **Note that research-related activities such as publication of papers or speaking at scientific meetings are not considered extension for this purpose.**

Integrated Projects aim to resolve today's problems through the application of science-based knowledge and address needs identified by stakeholders. Integrated Projects clearly identify anticipated outcomes and have a plan for evaluating and documenting the success of the project. These projects should lead to measurable, documented changes in learning, actions, or conditions in an identified audience or stakeholder group.

Integrated Project applicants are encouraged to review [www.nifa.usda.gov/funding/integrated/integrated.html](http://www.nifa.usda.gov/funding/integrated/integrated.html) for additional information on integrated programs, including tips for writing Integrated Project applications and an example of an integrated application. Those interested in submitting Integrated Project applications are encouraged to contact the Program Contact to discuss the anticipated project parameters and outcomes to ensure the application content appropriately meets the requirements of an Integrated Project.

In addition to the general requirements of all AFRI applications, Integrated project applications are required to include a logic model (2-Page Limit) and a Management Plan (3-Page Limit). Failure to include these components may result in the application not being accepted by the program for evaluation.